

# PATENT SPECIFICATION (11)

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## (54) FOOTWEAR

(71) We, ASHWORTHS (SLIPPERS) LIMITED, a British Company, of Albion Mills, Albion Street, Elton, Bury, Lancashire, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention concerns footwear, and more particularly relatively soft-topped footwear, such as slippers.

In the conventionally-employed techniques for making slippers and the like, one starts with a generally U-shaped upper blank. This is closed by applying the free end edges together and sewing them, as at the "heel" of the upper, if desired incorporating any requisite heel stiffening. Next, a previously-prepared sole-piece (also known as a "sock") is sewn in place to the lower edge of the upper. If the top edge of the upper requires to be folded over and hemmed down, this is done too at this stage. The resultant assembly is then applied to a mould whereby a combined sole and heel of appropriate plastics material or rubber is injection-moulded in place, covering the undersurface of the sole-piece and the seam between the latter and the upper. After cooling and setting of the plastics material or rubber, an insole (or inner sock) is inserted to overlie the inner surface of the sole-piece, this insole being caused to adhere in place.

Thus, with these conventional techniques use is made essentially of three separate components two of which have to be united prior to the moulding of the sole and heel, and the assembly has to be allowed to cool prior to the final step of sticking the insole in place.

An object of the present invention is to provide a form of upper blank the use of which simplifies the footwear-making techniques above discussed.

With this object in view, the present invention provides a blank, for use in making an article of footwear, comprising a U-shaped panel which serves to form the footwear upper, characterised in that said U-shaped panel has formed integrally there-

with a sole-piece which is contiguous with and extends from the outer edge of one limb of the U, the free outer edge of the U-shaped panel and the free edge of the sole-piece having registration marks to facilitate securingment thereof together and being formed to define no discernable allowances.

The invention further includes a method of making an article of footwear, using a blank as aforesaid, which comprises closing the upper by bringing together the free heel and edges of the limbs of the U-shaped panel and securing said heel end edges together, connecting the free edge of the sole-piece to the corresponding lower free edge of the upper using the said registration marks on said edges to facilitate their alignment; and moulding a combined sole and heel plastics material or rubber, to the assembly so formed.

The invention further includes, of course, an article of footwear made by this method.

The invention will be described further, by way of example, with reference to the accompanying drawings, in which:—

Fig. 1 is a plan view of a preferred embodiment of the blank of the invention;

Fig. 2 is an enlarged section taken on the line 2—2 of Fig. 1 to illustrate the nature of the material of which the particular blank of Fig. 1 is made;

Fig. 3 is a perspective view illustrating a first step in a method of making an article of footwear using the blank of Fig. 1;

Fig. 4 is a plan view illustrating subsequent steps in the method;

Fig. 5 is a perspective view illustrating a subsequent stage in the method;

Fig. 6 is a perspective view illustrating the completed upper and insole assembly ready for a sole and heel to be applied thereto; and

Fig. 7 is a diagrammatic sectional view illustrating the assembly of Fig. 6 about to have a sole and heel moulded thereon as a final stage in the method of making the article of footwear.

Referring first to Figs. 1 and 2 of the drawings, these figures illustrate a preferred embodiment of the blank of the invention, which is for use in making a soft-topped

article of footwear, for example a slipper or casual shoe. The particular blank, indicated generally by the reference numeral 10, comprises a surface fabric layer 11, for instance of coloured interlock knit fabric, a cushioning layer 12 of a resilient foamed material such as polyurethane, a bonding layer 13, e.g. of unbleached interlock knit fabric, and an outer layer 14 of an elastomer imparting an appearance or feel of soft and pliable leather, but of course, any suitable upper material may be used. In Fig. 1, the blank is shown with the surface fabric layer 11 uppermost.

As can be seen from Fig. 1, the blank 10 comprises an upper panel 15 generally of U-shape providing side-by-side limbs 16, 17. The limb 16 has formed integrally therewith a sole piece 18, the overall shape of which conforms to a conventional sole-piece or sock, with one side edge of said sole-piece contiguous with the corresponding side edge of the limb 16, free outer edge 23 of the upper panel 15 and free outer edge 22 of the sole-piece having no discernable allowances other than registration marks 26, 27, 28, 30, 31 to facilitate securement thereof together, as will be described later.

Figs. 3 to 7 illustrate the steps involved in making a slipper or other soft-topped article of footwear using the blank of Figs. 1 and 2.

Firstly, the free heel end edges 19 of the limbs 16, 17 of the U-shaped upper blank 15 are brought together, with the surface fabric layer 11 outwards, and then these free heel end edges 19 are secured together with one or more lines of stitching as indicated at 20, as shown in Fig. 3. Thereupon, a binding tape 21 is sewn over the heel end edges 19 at the resultant seam or join, and the closed upper is then turned right-side-out as shown in Fig. 4.

If it should be desired to reinforce the footwear article's heel, appropriate reinforcing panels (not shown) are stitched in place instead of, or in addition to, the binding tape 21, prior to turning right-side-out.

The next step is to secure the sole-piece 18 in position. As is shown in Fig. 5, this is done by sewing the free outer edge 22 of the sole-piece 18 to the corresponding free outer edge 23 of the upper panel 15, as at 25, the edge 23 of the upper panel 15 being pleated where necessary, for example around the toe region as indicated at 24 in Fig. 5. To ensure proper registration of the various parts of the edge 22 and 23, during this sewing operation, the registration marks 26, 27 and 28, which are in the form of pointed protuberances, on the sole-piece 18 are registered respectively with the heel stitching 20 and with the corresponding registration marks 30 and 31 on the upper panel 15.

This securement of the sole-piece 18 hav-

ing been completed, inner free edge 32 of the upper panel 15 is finished by folding inwards as a hem 33 and securing it in position by stitching, for example of a decorative configuration, as indicated at 34 in Fig. 6.

As a final stage in the making of the slipper or other article of footwear, the assembly, formed as above described and indicated by the numeral 35, is pulled onto a last 36 which is then positioned accurately in a heated multi-part mould 37 so as to define a mould space 38 corresponding to the desired outer configuration of a combined sole and heel of the slipper. An appropriate plastics or rubber material (not shown) is then injected into the mould space 38 thereby to mould said combined sole and heel onto the underside of the sole-piece 18, overlapping the stitched connection between the latter and the upper panel 15.

Upon removal from the last, any moulding sprue is cut away and the completed article of footwear is left to permit cooling and setting of the combined sole and heel, being otherwise substantially finished upon removal from the last and not requiring the addition of any further components.

The resultant slipper or other article of footwear is smart in appearance and snug in wear. Its primary advantage lies in the fact that it is significantly more economical to produce than in the case where traditional techniques are employed. Only one component is employed for the upper and sock, compared with three components in the traditional manufacture. Furthermore, the amount of sewing is less, and the steps of applying adhesive and assembling a component after moulding-on of the sole and heel are obviated.

Naturally, the invention is not confined to the precise details of the foregoing example, and variations may be made thereto within the scope of the following claims. Thus, it will readily be understood that the configuration of the blank and the material from which it is made may differ from what is illustrated, and the registration marks may be, for example, notches or small perforations. Naturally, decorative panels and/or trimmings, braids or ribbons may be provided on the finished article. The invention is not confined to the production of slippers but can be employed in relation to various styles of casual and soft-topped footwear.

#### WHAT WE CLAIM IS:—

1. A blank, for use in making an article of footwear, comprising a U-shaped panel which serves to form the footwear upper, characterised in that the said U-shaped panel has formed integrally therewith a sole-piece which is contiguous with and extends from the outer edge of one limb of the U, the free outer edge of the U-shaped panel

and the free edge of the sole-piece having registration marks to facilitate securement thereof together and being formed to define the discernable allowances.

5 2. A blank as claimed in Claim 1, wherein the registration marks are in the form of pointed protuberances, notches or perforations.

10 3. A blank as claimed in Claim 1 or 2 and which is of elastomer-coated fabric.

4. A blank as claimed in Claim 3, in which a cushioning layer, of resilient foamed material, is bonded to the fabric layer.

15 5. A blank, for use in making an article of footwear, substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

20 6. A method of making an article of footwear, using a blank as claimed in any preceding claim, which comprises closing the upper by bringing together the free heel end edges of the limbs of the U-shaped panel and securing said heel end edges together, connecting the free edge of the sole-piece to the corresponding lower free edge of the upper using the said registration marks on said edges to facilitate their alignment; and moulding a combined sole and heel, of plastics material or rubber, to the assembly so formed.

30 7. A method as claimed in Claim 6,

wherein a binding tape is sewn over the heel end edges at the joint or seam at the heel of the upper.

8. A method as claimed in Claim 6 or 7 35 wherein a reinforcing panel is stitched to the upper at the heel thereof.

9. A method as claimed in Claim 6, 7 or 8 wherein the inner free edge of the upper panel is finished by folding it inwards as a hem and securing it in position by stitching. 40

10. A method as claimed in any of claims 6 to 9 wherein the combined sole and heel is moulded-in so as to overlap the stitched connection between the sole-piece 45 and the upper panel.

11. A method of making an article of footwear substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings. 50

12. An article of footwear made by the method of any of claims 6 to 11.

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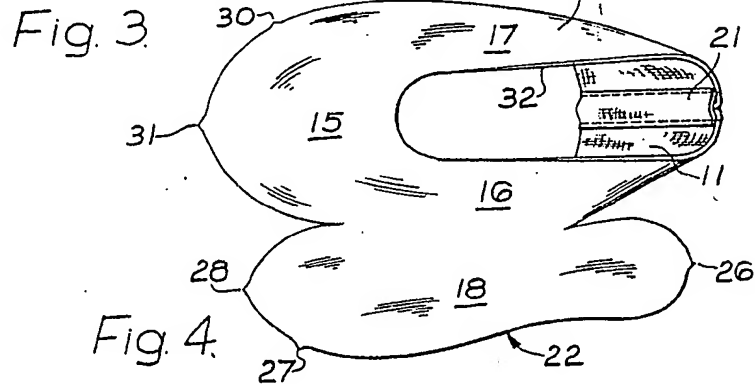
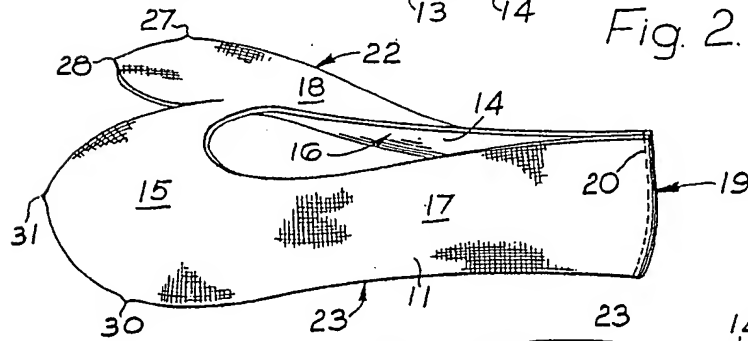
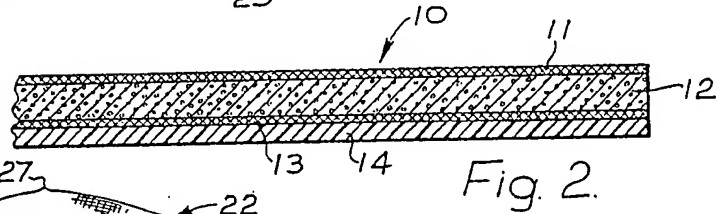
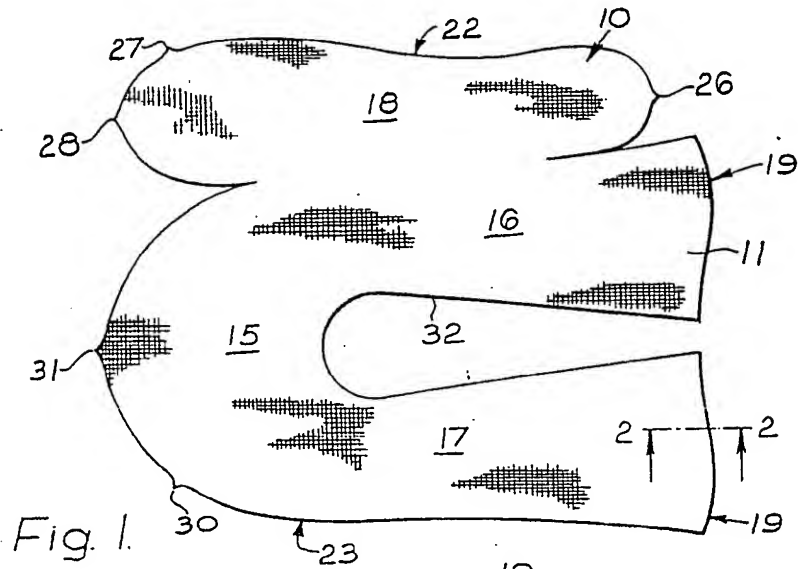
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SHEET 1



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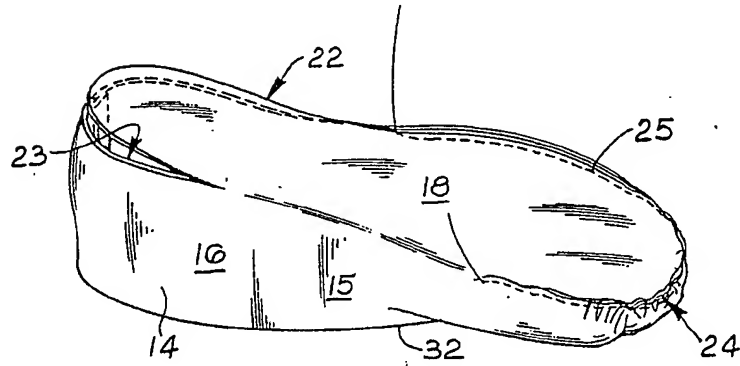


Fig. 5.

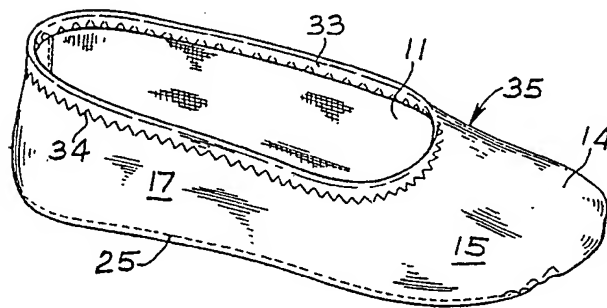


Fig. 6.

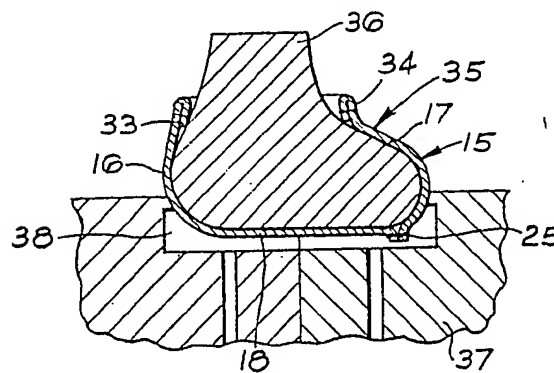


Fig. 7.